

# Exhibit 23

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STGUNS™ SPECIALIZES IN PRIVATE WEAPONS BUILDS YOU CAN DO YOURSELF



## AKM AK47 COMPLETE PARTS KIT WITH POPULATED BARREL

\$714.00 OUT OF STOCK

The Ghost Guns brand new line of the AK 47 platform is here, and it's here to stay. We've partnered with the industry experts to take the AK build and turn it into an easier build for at-home hobbyists. It comes with everything except for the receiver, tooling, magazine and furniture. This kit is a Romanian Military MOD 63 AKM 47 with a new US Made 4150 Vanadium black nitrided barrel.

Join the waitlist to be emailed when this product becomes available

Email address

JOIN WAITLIST

### PRODUCT DETAILS

Our industry expert successfully transformed the AK 47 build and made it one of the simplest processes to date. Without the use of a press, you can now build with ease and not spend a ton of money on the tooling needed. Not only has the need for so much tooling gone down but with our guided videos you will be able to use them and follow along while completing your build. Bringing one of the most known and versatile rifles to your garage and collection.

Our kits are originated from the area specified and imported to the US. Coated with cerakote in our facility and then put together for you. To maintain the highest quality products, these kits are from military built rifles with the highest tolerance and build quality that makes the AK famous. With every Ghost Guns AK 47 build kit we include a brand new barrel thats pre-headspaced and barrels populated so the hard parts already done for you.

JOIN THE HOME BUILDERS

Stay in the know about product updates and Ghost Guns news

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Whether you're a home builder or visiting for the very first time, we're here to assist!

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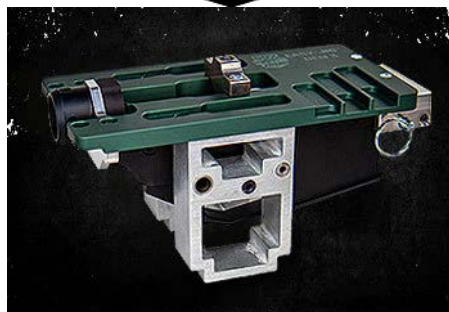


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FEATURED PRODUCTS



Easy Jig Gen 3 Multi-Platform - AR-15, AR-9 and .308 80% Lower Jig

★★★★★ 908 Reviews

~~\$329.99~~ \$299.99




All You Need Kit + (1) 80% Lower

\$529.97



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Type III Hard Anodized Billet AR-15 80% Lower Receiver  
★★★★★ 1338 Reviews  
\$99.99

**BUILD AT HOME**  
80% Arms sells AR-15 and .308 80% Lower Receivers, 80% Lower Jigs and other accessories which allow you to legally build a firearm at home in most states.  
**INCREDIBLY PRECISE**  
We utilize state of the art 5-axis CNC machines to mill all our .308 and AR-15 80 percent lower receivers to incredibly precise tolerances using premium billet aluminum.  
**RIDICULOUSLY EASY**  
We also offer our patented AR-15 and .308 Easy Jigs which is the first 80% lower jig that makes it ridiculously easy for a non-machinist to finish their 80% lower in under 1 hour with no drill press required.

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**80% BLOG**  
BY shooters, FOR shooters  
**JOIN THE 80% ARMY**  
Be first to know about promotions and new product launches.  
  
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<

>

# PF940C Full Build Kit

All the parts you need to build your own pistol

SHOP NOW



JSD 80% Lower Receivers, Jigs, and Gun Parts Kits

80% lower build kits are used to create fully functional firearms with no registration or serial numbers required. Build a reliable pistol or rifle in your own garage with absolutely no paperwork. Find the parts and tools you need here at JSD supply.

## Up Coming Gun Shows - January 18/19 - Costa Mesa CA & Raleigh NC

### FEATURED PRODUCTS



Sig Sauer P320 Full Build Kit  
- X Series

~~\$699.99~~ \$649.99

CHOOSE OPTIONS



Sig Sauer P320 Full Build Kit  
- M17 X Carry

~~\$799.99~~ \$699.99

ADD TO CART



PF940c Full Build Kit

★★★★☆ 127 Reviews  
~~\$650.00~~ \$429.99

CHOOSE OPTIONS



Polymer 80 PF45

★★★★★ 28 Reviews  
~~\$179.99~~ \$129.99

OUT OF STOCK



80% P320 Compatible Insert  
- MUP 1

★★★★☆ 46 Reviews  
~~\$149.99~~ \$99.99

CHOOSE OPTIONS

### CURRENT TOP SELLERS



PF940c Full Build Kit

★★★★☆ 127 Reviews  
~~\$650.00~~ \$429.99

CHOOSE OPTIONS



80% P320 Compatible Insert  
- MUP 1

★★★★☆ 46 Reviews  
~~\$149.99~~ \$99.99

CHOOSE OPTIONS



SALE

PF940sc Full Build Kit

★★★★☆ 106 Reviews  
~~\$650.00~~ \$429.99

OUT OF STOCK



PF940v2 Full Build Kit

★★★★☆ 79 Reviews  
~~\$650.00~~ \$429.99

CHOOSE OPTIONS



Jig for 80% P320 Compatible  
Insert - MUP 1

★★★★★ 28 Reviews  
~~\$179.99~~ \$149.99

ADD TO CART

## How to Finish an 80 Percent Lower Receiver as a Functional Firearm

If you're handy with simple tools and can follow basic instructions, you can turn an 80 lower receiver into an effective and reliable firearm with a few hours of work. To finish them precisely, you'll need a drill press or power drill, a router jig, a vise, and other components included in the gun parts kit.

80 percent lowers are manufactured solid in key areas to ensure quality and meet legal obligations. Guided by one of our completion jigs, you'll drill out the space for the firing mechanisms and other vital components. The amount of drilling needed will depend on the model and type of firearm you are preparing. Once the receiver has been prepared, follow instructions for assembly. It's a great chance to see the ins and outs of your gun and learn how everything works.







## Why Build Your Own Gun?

With any other guns, you go to the gun store, fill out a bunch of forms. They'll run a background check, and depending on your state, you could wait awhile.

With JSD Supply, you'll have the 80 percent lower receiver and all the parts you need to finish a firearm yourself shipped to your door. No paperwork. And without serialization, there is no way to track your purchase. Buy from a supplier that respects your privacy and can actually help you protect it.



## Is it Legal?

Absolutely. It is legal to build your own firearm for personal use in most US States so long as you can legally own a firearm. Always check local laws for your area. Rhode Island and New Jersey recently passed laws that may restrict the purchase or assembly of unserialized firearms.

80 percent lower receivers are parts manufactured just short of the legal definition of a firearm by the Bureau of Alcohol, Tobacco, and Firearms (ATF).

Some US States have additional regulations for firearms once they are completed, including California, Rhode Island, and New Jersey. Be sure to identify and comply with all local laws prior to your purchase

## Why Source with JSD Supply?

JSD is the home of quality gun parts and kits. We know they work because we use them. And if they don't work for you, we'll refund or replace them. It's that simple.

We're here to support you through the ultimate DIY project. All products are guaranteed, and we have some of the quickest shipping times in the industry. Start with just the parts you're looking for here with us online, or order a complete build kit for all the parts and tools you'll need from start to finish.

## What our buyers say about us



**Mark B.** Verified Buyer

09/29/19



### Lower parts kit

Best customer service around! I ordered online and received everything pictured within 3 days. Great company You will not be disappointed!



**Bruce B.** Verified Buyer

07/27/19



### Sig P320 pistol lower parts

Great parts excellent fits no problems



**Daniel** Verified Buyer

06/25/19



**Geski@Comcast.Net** Verified Buyer

05/27/19

### Almost perfect

FCU once assembled fits fine in compact and full size frames but is incredibly right on the subcompact and requires [read more...](#)

### Lower parts kit

I need a 9mm slide lock whereas a .45 slide lock was included in the parts kit. I am happy with all of the other parts.

## Latest News



### Custom Handgun: The Perks of Having a Custom Firearm

*Posted by Jordan Vinroe on Sep 30, 2020*

Owning a gun is an excellent choice for personal protection. Provided you know how to safely use it—and you practice with it regularly—a firearm can help keep you safe from a

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### Where to Hit a Deer and Other Tips for a First-Time Hunter

*Posted by Jordan Vinroe on Sep 24, 2020*



Going hunting for the first time is an exciting experience for everyone involved (well, maybe not for the deer). From choosing your gear to practicing with your firearm or

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## Hunting Tips: How to Prepare for Each Hunting Season

*Posted by Jordan Vinroe on Sep 18, 2020*

No matter what kind of game you hunt, hunting season is an exciting time. However, you can't just wake up on the first day of the season and think you're ready to go. There are

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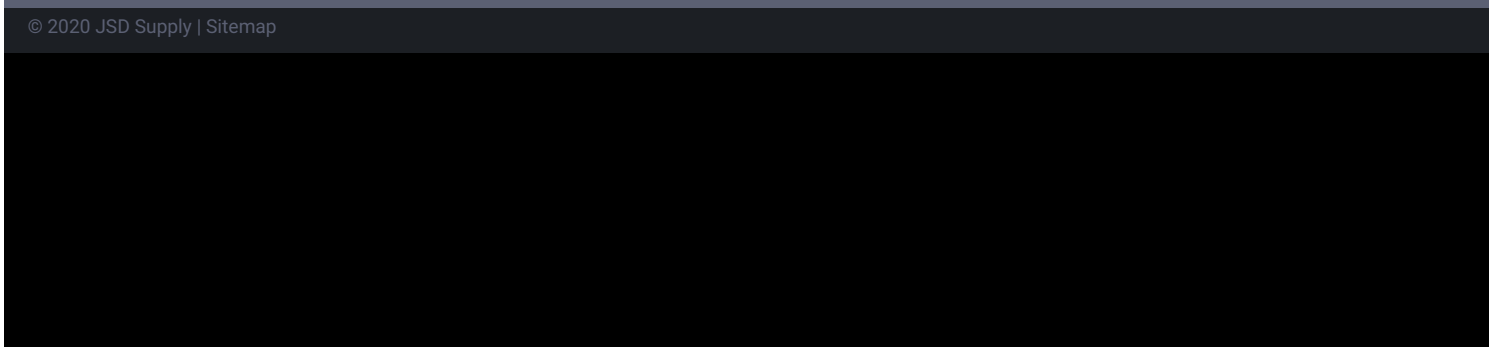
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Hunting Tips: How to Prepare for Each Hunting Season







**We are backordered and our shop is working 24/7. Orders are shipping in 4 to 8 weeks.**  
**(<https://info.5dtactical.com/2020/11/23/production-updates/>)**



(/)

[Home \(https://www.5dtactical.com/\)](https://www.5dtactical.com/) > [80% Lowers \(https://www.5dtactical.com/80-lowers-s/101.htm\)](https://www.5dtactical.com/80-lowers-s/101.htm)

## 80% Lower AR Receivers and Parts

Our AR-15 and AR-308 80% lower AR receivers can be shipped directly to your home because they are not considered firearms per the ATF's definition. In order for them to become functional firearm components, they require some basic machining and drilling which can easily be completed in 45 minutes or less with our innovative [AR-15 and AR-308 Router Jigs](https://www.5dtactical.com/80-lower-jigs-s/100.htm) (<https://www.5dtactical.com/80-lower-jigs-s/100.htm>). 80% lowers require the fire control group pocket to be milled out, which is completed with a handheld compact router. A hand drill or a drill press can be used to drill the safety selector, hammer, and trigger pin holes. We offer a variety of billet and [forged AR-15 80% lower receivers](https://www.5dtactical.com/ar-15-forged-80-lower-s/15-ar15-7075f-black.htm) (<https://www.5dtactical.com/ar-15-forged-80-lower-s/15-ar15-7075f-black.htm>) of the highest quality. All of our products are proudly made in the USA to exacting standards.

REVIEWS



(<https://www.5dtactical.com/ar-15-80-lower-receivers-s/109.htm>)

**AR-15 80% LOWER RECEIVERS**

([HTTPS://WWW.5DTACTICAL.COM/AR-15-80-LOWER-RECEIVERS-S/109.HTM](https://www.5dtactical.com/ar-15-80-lower-receivers-s/109.htm))



(<https://www.5dtactical.com/ar-308-80-lower-receivers-s/110.htm>)

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(<https://www.5dtactical.com/ar9-80-lower-s/167.htm>)

**AR-9 80% LOWERS**

([HTTPS://WWW.5DTACTICAL.COM/AR9-80-LOWER-S/167.HTM](https://www.5dtactical.com/ar9-80-lower-s/167.htm))



(<https://www.5dtactical.com/80-pistol-frames-s/122.htm>)

**80% PISTOL FRAMES**

([HTTPS://WWW.5DTACTICAL.COM/80-PISTOL-FRAMES-S/122.HTM](https://www.5dtactical.com/80-pistol-frames-s/122.htm))

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30 per page





(<https://www.5dtactical.com/ar-15-80-lower-p/10015-blk.htm>)  
Billet AR-15 80% Lower - Black Anodized (<https://www.5dtactical.com/ar-15-80-lower-p/10015-blk.htm>)

Price: \$89.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10015%2DBLK)



(<https://www.5dtactical.com/ar-15-billet-80-lower-p/10015-raw.htm>)  
AR-15 Billet 80% Lower - Raw (<https://www.5dtactical.com/ar-15-billet-80-lower-p/10015-raw.htm>)

Price: \$79.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10015%2DRAW)



(<https://www.5dtactical.com/billet-ar15-fde-p/10015-fde.htm>)  
BILLET AR-15 80% CERAKOTE LOWER - FDE  
(<https://www.5dtactical.com/billet-ar15-fde-p/10015-fde.htm>)

Price: \$119.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10015%2DFDE)

★ REVIEWS



(<https://www.5dtactical.com/billet-ar15-odg-p/10015-odg.htm>)  
BILLET AR-15 80% CERAKOTE LOWER - OD GREEN  
(<https://www.5dtactical.com/billet-ar15-odg-p/10015-odg.htm>)

Price: \$119.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10015%2DODG)



(<https://www.5dtactical.com/billet-ar15-pnk-p/10015-pnk.htm>)  
BILLET AR-15 80% CERAKOTE LOWER - PINK  
(<https://www.5dtactical.com/billet-ar15-pnk-p/10015-pnk.htm>)

Price: \$119.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10015%2DPNK)



(<https://www.5dtactical.com/ar-15-80-lower-raw-p/5d-ar15-7075f-raw.htm>)  
AR-15 80% Lower - Forged 7075-T6 - Raw (<https://www.5dtactical.com/ar-15-80-lower-raw-p/5d-ar15-7075f-raw.htm>)

Price: \$69.99

Add To Cart (/ShoppingCart.asp?

ProductCode=5D%2DAR15%2D7075F%2DRAW)



(<https://www.5dtactical.com/g19-upper-p/g19-upper.htm>)  
Glock 19 Complete Slide - Black - Stainless Barrel  
(<https://www.5dtactical.com/g19-upper-p/g19-upper.htm>)

Price: \$439.99

Add To Cart (/ShoppingCart.asp?

ProductCode=G19%2DUPPER)

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(<https://www.5dtactical.com/15-round-glock-19-p/mf19015.htm>)  
GLOCK OEM - G19 - 9X19, 15RD MAGAZINE  
(<https://www.5dtactical.com/15-round-glock-19-p/mf19015.htm>)

Price: \$29.99

Add To Cart (/ShoppingCart.asp?

ProductCode=MF19015)



(<https://www.5dtactical.com/forged-fde-ar15-p/10115-fde.htm>)  
AR-15 80% Lower - Forged 7075-T6 - Cerakote FDE  
(<https://www.5dtactical.com/forged-fde-ar15-p/10115-fde.htm>)

Price: \$99.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10115%2DFDE)





(https://www.5dtactical.com/forged-odg-ar15-p/10115-odg.htm)

AR-15 80% Lower - Forged 7075-T6 - Cerakote ODG  
(https://www.5dtactical.com/forged-odg-ar15-p/10115-odg.htm)  
Price: \$99.99

Add To Cart (/ShoppingCart.asp?

ProductCode=10115%2DODG)



(https://www.5dtactical.com/g17-frame-parts-p/lpk-g17.htm)  
G17 Glock Gen 1-3 Frame Parts Kit (https://www.5dtactical.com/g17-frame-parts-p/lpk-g17.htm)

Price: \$99.99

Add To Cart (/ShoppingCart.asp?

ProductCode=LPK%2DG17)



(https://www.5dtactical.com/product-p/10115-raw-blem-10.htm)  
AR-15 80% LOWER - FORGED 7075-T6 - RAW - BLEMISHED - 10PACK  
(https://www.5dtactical.com/product-p/10115-raw-blem-10.htm)  
Price: \$399.99

**Sale Price: \$329.99**

You Save: \$69.91

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ProductCode=10115%2DRAW%2DBLEM%2D10)

REVIEWS



(https://www.5dtactical.com/cmmg-ar15-lpk-p/55ca6cs.htm)  
CMMG AR-15 Lower Parts Kit (https://www.5dtactical.com/cmmg-ar15-lpk-p/55ca6cs.htm)  
Price: \$64.99

Add To Cart (/ShoppingCart.asp?

ProductCode=55CA6CS)



(https://www.5dtactical.com/glock-speed-loader-p/32art.htm)  
Glock OEM Magazine Speed Loader (https://www.5dtactical.com/glock-speed-loader-p/32art.htm)  
Price: \$3.99

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ProductCode=GWL%2D32ART)

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(https://www.5dtactical.com/product-p/10045015-blem-10pk.htm)

AR-15 80% Lower - Forged 7075-T6 - Black Anodized - Blemished - 10PK  
(https://www.5dtactical.com/product-p/10045015-blem-10pk.htm)  
Price: \$499.99

**Sale Price: \$429.90**

You Save: \$70.09

Add To Cart (/ShoppingCart.asp?

ProductCode=10045015%2DBLEM%2D10PK)



(https://www.5dtactical.com/product-p/10045015-blem-5pk.htm)

AR-15 80% Lower - Forged 7075-T6 - Black Anodized - Blemished - 5PK  
(https://www.5dtactical.com/product-p/10045015-blem-5pk.htm)  
Price: \$249.95

**Sale Price: \$224.95**

You Save: \$25.00

Add To Cart (/ShoppingCart.asp?

ProductCode=10045015%2DBLEM%2D5PK)



(https://www.5dtactical.com/ar-10-308-matched-receiver-set-p/5d-308-set.htm)  
AR-308 Forged Upper / Billet 80% Lower Matched Set  
(https://www.5dtactical.com/ar-10-308-matched-receiver-set-p/5d-308-set.htm)  
Price: \$244.98

**Sale Price: \$219.98**

You Save: \$25.00

Add To Cart (/ShoppingCart.asp?

ProductCode=5D%2D308%2DSET)



(https://www.5dtactical.com/g17-slide-complete-p/g17-upper.htm)

Glock 17 Complete Slide - Black - Stainless Barrel  
(https://www.5dtactical.com/g17-slide-complete-p/g17-upper.htm)  
Price: \$439.99

Add To Cart (/ShoppingCart.asp?

ProductCode=G17%2DUPPER)





(<https://www.5dtactical.com/ar-10-308-80-lower-fde-p/5d-ar308-6061-fde.htm>)  
AR-308 6061-T6 Billet 80% Cerakote Lower Receiver - FDE  
(<https://www.5dtactical.com/ar-10-308-80-lower-fde-p/5d-ar308-6061-fde.htm>)  
Price: \$149.99  

Add To Cart (/ShoppingCart.asp?)

  
ProductCode=5D%2DAR308%2D6061%2DFDE)



(<https://www.5dtactical.com/ar-308-lower-parts-kit-p/lpk-308.htm>)  
AR-308 Lower Parts Kit (<https://www.5dtactical.com/ar-308-lower-parts-kit-p/lpk-308.htm>)  
Price: \$74.99  

Add To Cart (/ShoppingCart.asp?)

  
ProductCode=LPK%2D308)



(<https://www.5dtactical.com/ar-9-80-lower-p/10009-blk.htm>)  
AR-9 9mm 80% Lower - Glock Mag Compatible - Black Anodized  
(<https://www.5dtactical.com/ar-9-80-lower-p/10009-blk.htm>)  
~~Price: \$159.99~~  
**Sale Price: \$129.99**  
You Save: \$30.00  

Add To Cart (/ShoppingCart.asp?)

  
ProductCode=10009%2DBLK)

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(<https://www.5dtactical.com/product-p/5d-ar15-7075f-black.htm>)  
AR-15 80% Lower - Forged 7075-T6 - Black Anodized  
(<https://www.5dtactical.com/product-p/5d-ar15-7075f-black.htm>)  
Price: \$89.99  

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ProductCode=5D%2DAR15%2D7075F%2DBLACK)



(<https://www.5dtactical.com/product-p/10045015-blem.htm>)  
AR-15 80% Lower - Forged 7075-T6 - Black Anodized - Blemished  
(<https://www.5dtactical.com/product-p/10045015-blem.htm>)  
Price: \$79.99  
**Sale Price: \$49.99**  
You Save: \$30.00  

Add To Cart (/ShoppingCart.asp?)



(<https://www.5dtactical.com/product-p/5d-070419-blk.htm>)  
The Independence Pack - Black Anodized  
(<https://www.5dtactical.com/product-p/5d-070419-blk.htm>)  
Price: \$209.97  

Add To Cart (/ShoppingCart.asp?)

  
ProductCode=5D%2D070419%2DBLK)

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(<https://www.5dtactical.com/product-p/5d-070419-raw.htm>)  
 The Independence Pack (3 Pack) - Raw Finish  
 (<https://www.5dtactical.com/product-p/5d-070419-raw.htm>)  
 Price: \$179.97  
 Add To Cart (/ShoppingCart.asp?  
 ProductCode=5D%2D070419%2DRAW)



(<https://www.5dtactical.com/product-p/mf10019.htm>)  
 GLOCK OEM - G19 - 9X19, 10RD MAGAZINE  
 (<https://www.5dtactical.com/product-p/mf10019.htm>)  
 Price: \$29.99  
 Add To Cart (/ShoppingCart.asp?  
 ProductCode=MF10019)



(<https://www.5dtactical.com/ar-10-308-80-lower-p/5d-ar308-6061-black.htm>)  
 AR-308 6061-T6 Billet 80% Lower Receiver - Black Anodized  
 (<https://www.5dtactical.com/ar-10-308-80-lower-p/5d-ar308-6061-black.htm>)  
 Price: ~~\$129.99~~  
**Sale Price: \$119.99**  
 You Save: \$10.00  
 Add To Cart (/ShoppingCart.asp?  
 ProductCode=5D%2DAR308%2D6061%2DBLACK)

REVIEWS



(<https://www.5dtactical.com/ar-10-308-80-lower-raw-p/5d-ar308-6061-raw.htm>)  
 AR-308 6061-T6 Billet 80% Lower Receiver - RAW  
 (<https://www.5dtactical.com/ar-10-308-80-lower-raw-p/5d-ar308-6061-raw.htm>)  
 Price: \$109.99  
 Add To Cart (/ShoppingCart.asp?  
 ProductCode=5D%2DAR308%2D6061%2DRAW)



(<https://www.5dtactical.com/ar-15-5.56-nato-5.45x45mm-ak-47-7.62x39mm-rifle-raw-3-pack.htm>)  
 AR-15 5.56 NATO / 5.45x45mm AK-47 7.62x39mm Rifle - RAW (3 Pack)  
 (<https://www.5dtactical.com/ar-15-5.56-nato-5.45x45mm-ak-47-7.62x39mm-rifle-raw-3-pack.htm>)  
 List Price: \$199.95  
 Price: ~~\$169.95~~  
**Sale Price: \$174.95**  
 Every month one lucky customer is chosen for a grab bag of swag. Shirts, Koozies, Stickers, and more! Subscribe to our newsletter and enter this month's drawing!

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(<https://www.5dtactical.com/ar-9-80-lower-fde-p/10009-fde.htm>)  
 AR-9 9mm 80% Cerakote Lower - Glock Mag Compatible - FDE  
 (<https://www.5dtactical.com/ar-9-80-lower-fde-p/10009-fde.htm>)  
 Price: \$179.99  
 Add To Cart (/ShoppingCart.asp?  
 ProductCode=10009%2DFDE)

## Easy and Fast Assembly

Easily finish our 80% AR-15 or AR-10 lower receivers to fully working receivers with our 80% Lower Jigs (<https://www.5dtactical.com/80-lowers-s/101.htm>). Shop our AR-15 or 80% AR-308 complete lower receivers and kits to get all the parts you need to complete your custom build with precision. Enjoy easy and fast assembly for AR-15 and AR-308 with our 80% lower receiver kits.

With 80 percent lower kits and parts engineered for durability, precision machined aircraft-grade aluminum for superior strength, our 80% lower AR receivers ensure that you'll be starting your AR build off on the right foot.

## Visit Our Online Store

At 5D Tactical, we know that DIY AR builders rely on the best quality parts to finish their projects. That's why we aim to bring you the best 80% lower AR receivers and parts in the market.

Enjoy free shipping on all orders over \$200

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# SA 1911 Phantom Jig

[BE THE FIRST TO REVIEW THIS PRODUCT](#)Price \$199.00 ~~\$250.00~~SKU#: **1911PHANTOMJIG**

Stealth Arms has made it dummy proof to complete an 1911 80% Frame **WITHOUT** the need for a milling machine! With our patent pending Phantom Jig, you will have everything needed to bring your 1911 80% Frame to completion and ready to accept parts.

Works with **ALL** Stealth Arms' frames

Check out more details below including a video to see how it works!

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## Details

## 1911 Phantom Jig

Introducing Stealth Arms' revolutionizing Phantom Jig! Stealth Arms has made it dummy proof to complete an 1911 80% Frame **WITHOUT** the need for a milling machine! With our patent pending Phantom Jig, you will have everything needed to bring your 1911 80% Frame to completion and ready to accept parts.

You now only need 3 peices of equipment to completely finish your 1911 80% Frame:

Vise


Drill Press or Drill

Stealth Arms' 1911 Phantom Jig (which utilizes 2 custom carbide cutters to aid the user in precisely cutting the slide rails and barrel seat)

\*\*\*\*The Phantom Jig produces mixed results when used on steel frames. Multiple cutters are usually needed to finish steel frames.\*\*\*\*

Watch our user friendly video below to see an overview of how The 1911 Phantom Jig works!

1911 80% Phantom Jig for 1911 80% Frame - Demonstration Video (...)



Reviews

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Home / Universal 80 Lower Jigs / Universal AR -308, -15, -9,-45 and AR-10 80% Lower Jig - Router Jig Extreme™



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#### VERSION]:

- ☐ None
- ☐ Router Jig Extreme SpeedMILL™ - Version 1
- ☐ Router Jig Extreme SpeedMILL™ - Version 2
- ☐ Router Jig Extreme SpeedMILL™ - Version 3
- ☐ Router Jig Extreme SpeedMILL™ - Version 4

#### STARTING AT \$39.95 • ADD A 80 LOWER RECEIVER TO YOUR JIG ORDER (SELECT ONE):

- ☐ None
- ☐ AR 80% Lower Receiver - Billet - Raw
- ☐ AR 80% Lower Receiver - Billet - Black Anodized
- ☐ AR 80% Lower Receiver - Forged - Black Anodized
- ☐ AR 80% Lower Receiver - Forged - Raw

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# MODULUS ARMS ROUTER JIG EXTREME™

The new Modulus Arms Router Jig Extreme™ is the fastest to use, highest quality, most universal 80% lower jig on the market. Don't just take our word for it, see for yourself risk-free with our **100% money back satisfaction guarantee\***. **If you don't love our jig, we will give you a full refund!**

The Router Jig Extreme™ comes in one fully universal model that fits \*all AR-15, DPMS style .308, and AR-9 lowers. There is no need to buy any extra add on parts for .308 compatibility. The standard model is fully universal right out of the box. Modulus Arms invented the first fully universal router jig, and we've once again raised the bar.



**The SpeedMILL™ is required for use with the Modulus Arms Router Jig Extreme™ and is not included. Previous generation Modulus Arms end mills will not work with this jig for your 80 lower build.**



## Features:

- The fastest 80% Lower jig on the market, capable of finishing an AR-15 80% lower in a record setting sub 45 minute time.
- Switch between AR-15, AR-9, AR-45 or .308 lowers in seconds.
- All wear surfaces are made with hardened steel.
- Our router attachment plate uses a proprietary one piece solid guide pin system to trace fire control group pocket profile guides, ensuring the end mill never touches the jig. This eliminates wear - extending the life of your 80 lower Router Jig Extreme™.
- The Router Jig Extreme™ utilizes a heat fit (a.k.a. shrink-fit) end mill holder which provides increased rigidity over a standard length carbide end mill.
- 1.5 in thick no-touch side plates keep your drill bit stable when drilling with a hand drill.
- Only 1 hole needs to be drilled before milling.
- Patented integrated depth gauges tell you how deep to mill and eliminate the need for any measuring.
- Patented integrated vacuum attachment allows you to attach a standard vacuum hose, greatly reducing the mess created by chips.
- Easy to follow illustrated instruction booklet included.

**If adding a Modulus Arms SpeedMILL™ end mill, please check this table to confirm your correct Router and the appropriate SpeedMILL™**



ROUTER

BOSCH PR10E

SpeedMILL™ SELECTION

SpeedMill #V1

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|   |               |
|---|---------------|
| MAKITA RT0701C  | SpeedMill #V3 |
| <b><u>THESE ALL REQUIRE THE ADDITIONAL FULL-SIZE ROUTER PLATE</u></b> |               |
| BOSCH 1617EV  | SpeedMill #V4 |
| BOSCH 1617EVS   | SpeedMill #V4 |
| CRAFTSMAN 2767  | SpeedMill #V4 |
| CRAFTSMAN 27683   | SpeedMill #V4 |
| CRAFTSMAN 50429   | SpeedMill #V4 |
| DEWALT DW616  | SpeedMill #V4 |
| DEWALT DW618  | SpeedMill #V4 |
| HITACHI M12VC   | SpeedMill #V4 |



Router Jig Extreme™ requires our SpeedMill™, a proprietary shrink fit end mill for use. It is available as part of our complete tool kit, or individually on its own.

You can also add it to your order by selecting the correct version above.

**The Router Jig Extreme™ is the only jig in the world backed by a 100% satisfaction guarantee. If you don't love this jig, send it back for a full refund.\***

Protected by multiple issued and pending US Patents.

Modulus Arms "Router Jig Extreme™" Instruction Manual

\*Satisfaction guarantee policy details  
\*It is possible that some very rare, oddly shaped non-milspec designs won't fit. In the unlikely event your lower doesn't fit, you may return the jig for a full refund.





What are you looking fo

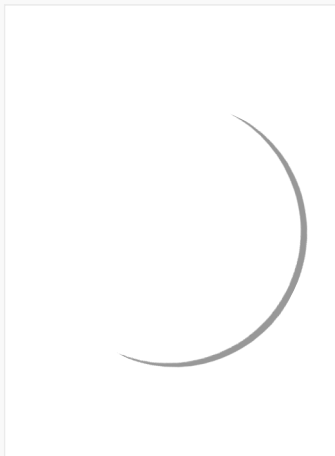
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### Modulus Arms Router Jig Extreme

Secure yours today: <https://www.modulusarms.com/> The new Modu...

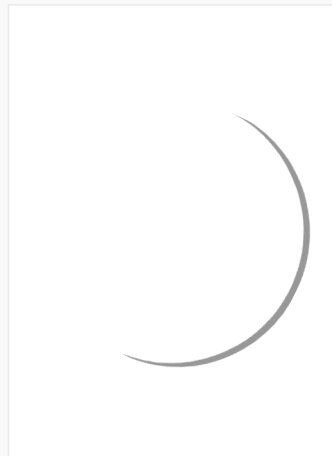
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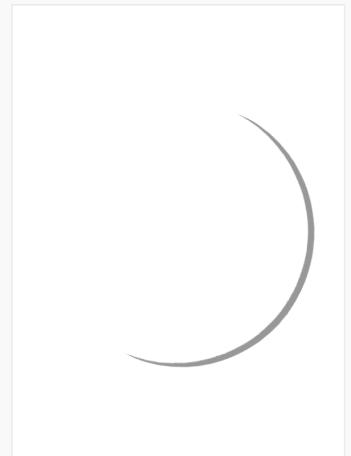
AR 80% LOWER RECEIVER - BILLET  
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\$99.99



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- RAW  
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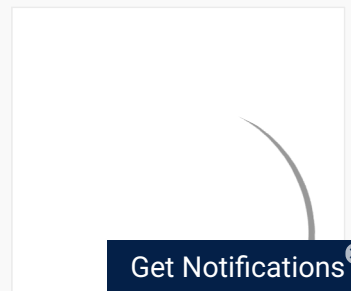
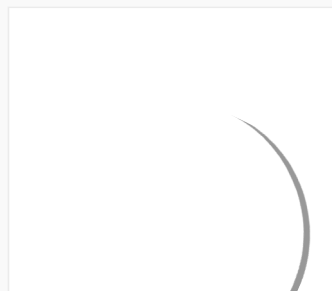
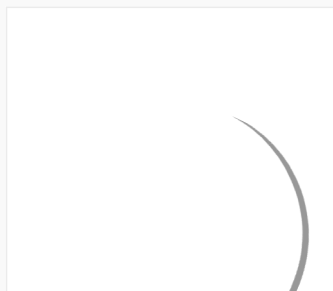
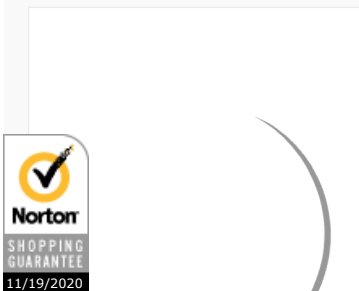


ROUTER JIG EXTREME™ TOOL KIT  
W/SPEEDMILL™  
\$53.99



ROUTER JIG EXTREME  
SPEEDMILL™  
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## Modulus Arms | 80% Lower Receivers and 80 Lower Jigs

Modulus Arms  
7108 Katella  
Suite 411  
Stanton, CA 90680



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**We are backordered due to pandemic buying surge. Our shop is working 24/7. Orders are shipping in 4 to 8 weeks.**



(/)

[Home \(https://www.5dtactical.com/\)](https://www.5dtactical.com/) > [80% Lower Jigs \(https://www.5dtactical.com/80-lower-jigs-s/100.htm\)](https://www.5dtactical.com/80-lower-jigs-s/100.htm) >

## THE ROUTER JIG PRO MULTIPLATFORM - AR-15/AR-9/AR-45/.308/AR-10

★ REVIEWS



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🔍 Larger Photo <https://cdn3.volusion.com/sycrv.ebdas/v/vspfiles/photos/40105-MP-2.jpg?v-cache=1604245108>

<http://www.5dtactical.com:80/multiplatform-80-lower-jig-p/40105-mp.htm>

<http://www.5dtactical.com:80/multiplatform-80-lower-jig-p/40105-mp.htm>

Looking for a universal 80% lower jig capable of completing AR-15, AR-9, AR-45, .308 and AR-10 80% lowers? Look no further! The Router Jig PRO Multiplatform by 5D Tactical is the most advanced and most durable router based lower receiver jig ever created. Universal for all billet, forged and 80% lower receiver polymer AR-15, AR-9, AR-45, .308 and AR-10 receivers, guaranteed.

The Router Jig PRO can also be purchased in [AR-15/AR-9/AR-45 only \(https://www.5dtactical.com/ar-15-80-lower-jig-p/5d-jig15.htm\)](https://www.5dtactical.com/ar-15-80-lower-jig-p/5d-jig15.htm) or [.308/AR-10 only \(https://www.5dtactical.com/ar-308-80-lower-jig-p/5d-jig308.htm\)](https://www.5dtactical.com/ar-308-80-lower-jig-p/5d-jig308.htm) configurations, with [Jig Conversion Kits \(https://www.5dtactical.com/ar-80-jig-conversion-kits-s/115.htm\)](https://www.5dtactical.com/ar-80-jig-conversion-kits-s/115.htm) available to upgrade to Multiplatform at a later date if you ever change your mind!

All you will need from us to finish **any\*** 80% AR-15, AR-9, AR-45, .308 or AR-10 lower at home is the Router Jig PRO Multiplatform, our Patent Pending ReadyMILL™, and some drill bits. Our ReadyMILL™ and the necessary drilling tools are available as a prepackaged kit in our PRO Jig Tool Kit. Need an 80% lower? [We've got those too \(https://www.5dtactical.com/ar-15-80-lower-receivers-s/109.htm\)](https://www.5dtactical.com/ar-15-80-lower-receivers-s/109.htm).

**\*Note: This jig is not compatible with Cerro Forge Ruger SR-762 80% lowers. We offer an additional conversion kit for this style of 80% lower through CERATAC.**



**The ReadyMILL is required for use with the Router Jig PRO and is NOT included. It's available for purchase on its own, or as part of our PRO Jig Tool Kit:**

[ReadyMILL](https://www.5dtactical.com/end-mill-80-lower-jig-p/5d-rm.htm)

<https://www.5dtactical.com/end-mill-80-lower-jig-p/5d-rm.htm>)PRO Jig Tool Kit (<https://www.5dtactical.com/80-lower-jig-tool-kit-p/5d-pk300.htm>)

- **Fast and Easy** - The Multiplatform Router Jig PRO by 5D Tactical is the fastest and easiest universal 80% lower jig on the market today, bar none. In testing, we were able to finish an AR-15 80% lower including jig assembly, in under 15 minutes with excellent results.
- **Incredibly Durable** - The first universal 80% lower jig **ever** to offer all ultra-hardened, heat treated steel wear surfaces. The 1.25 inch thick drill guide is constructed of 100% hardened steel, and the side plates house 1.5 inch ultra-hardened steel drill bushings. If you can wear this jig out, we want to hear from you!
- **Revolutionary Router Guide System** - The Router Adapter is used in conjunction with the included guide pins to trace guides of the fire control group pocket, ensuring the end mill never touches the jig. Ultra-Durable glass-filled nylon increases longevity over traditional plates prone to dings.
- **Truly Universal 80% AR-15 Lower Receiver Compatibility** - [Guaranteed \(https://www.5dtactical.com/help\\_answer.asp?ID=17\)](https://www.5dtactical.com/help_answer.asp?ID=17) . An 80% lower mounts in our jig by the same locations used to mount an upper receiver. Universal for **any** AR-15, AR-9, AR-45, .308 or AR-10 lower receiver on the market. Optimized for any material; 6061-T6, 7075-T6, Polymer, etc.
- **Centered and Aligned Finished Features** - Mounting an 80% lower by the front takedown and end plate position on buffer





tube extension ensures properly aligned finished features, without any additional locating pins.

- **ReadyMILL™** - Our Patent Pending ReadyMILL™ (Sold Separately), is the strongest and most rigid router based milling tool available today. Nothing on earth comes close! The ReadyMILL™ contributes to the Router Jig PRO producing the best finished results, in less time than ever before.
- **1.5" Thick No-Touch Side Plates** - Our innovative no-touch design, first pioneered by 5D Tactical, ensures universal fitment and less chance for accidental damage to the receiver. The 1.5" thick side plates are double the thickness of the nearest competitor, which will aid in producing perfect selector and pin holes every time, even with a handheld drill.
- **Less Drilling** - Only 1 hole needs to be drilled prior to milling!
- **3-Step Process** - Each milling step and depth gauge corresponds to a simple 1-2-3 process.
- **High-Visibility Milling** - External milling templates provide open area above the lower for full visibility during milling.
- **Integrated Vacuum Attachment** - Our buffer adapter mounting point doubles as a 1.25" vacuum hose attachment which will aid in chip removal while you mill.
- **Super Fast Assembly** - Only 14 Phillips screws are needed to assemble the entire universal 80% lower jig, and it never needs to be completely disassembled, even while switching between platforms.
- **Integrated Depth Gauge** - The high visibility laser marked depth gauge is integrated to the top plate to keep both hands free for setting drilling and milling depths.

*Appearance may vary based on availability*

United States Patent #9,982,958  
Other Patents Pending

Price: \$289.98

**Availability:** Usually Ships in 6 to 8 Weeks

★★★★★ [1 Review](#)

Product Code: 40105-MP

Qty:

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| Description | Information |
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The Router Jig PRO Multiplatform allows you to finish all known AR-15, AR-9, AR-45,.308 and AR-10 80% lowers, all in one easy to use machining jig. **\*Don't forget to add a PRO Jig Tool Kit (<https://www.5dtactical.com/80-lower-jig-tool-kit-p/5d-pk300.htm>) to your order!**

★ REVIEWS

NEW 5D Tactical Router Jig PRO - Feat...

5D Tactical Router Jig PRO Instructions

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★★★★★ 5.0

1 Review

0 Questions \ 0 Answers

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**Reviews (1)** Questions (0)

NH Verified Reviewer

10/22/20

★★★★★

**Great Jig!**

This is a great jig, it was my first time milling a lower. The gun turned out great! Assembly was straight forward, though make sure to read all the instruction before beginning! It took my about 2 hours from start to finish though I did stop in the middle for a break (not counted in the time).

I bought a low end 80% lower and the only i...Read More  
(<https://yotpo.com/go/bXnWRfyx>)

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
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# ABOUT

It is obvious in the State of California that the foundations of Tyranny have been built. The disease of Tyranny has since spread to other states in our union. California, New York, Connecticut, Massachusetts and many others have all been infected.

These states use of unreasonable and arbitrary use of power and control has led to unconstitutional gun control legislation. It is for this, why R&B Tactical Tooling was created. We at R&B Tactical Tooling are employing our ability to give the average citizen the tools necessary to take back their constitutional freedoms as American citizens.

This ability to defend American freedom utilizes personal built 80% lower receivers. By the ATF's legal definition an 80% lower receiver is NOT a gun, as it is not a functional piece of equipment. As such it is not required to have a government registered serial number attached to it. R&B Tactical Tooling manufactures a tool kit that enables the average citizen to finish the remaining 20% of the machining process themselves. The finished product is a precision machined functional lower receiver with no serial number. If they don't know you have it, they can't take it.



We at R&B Tactical Tooling have spent the last four decades manufacturing high end application specific tooling for the woodworking, plastics, music and aerospace industries. It is now time to manufacture high end application specific tooling for the American Patriot.

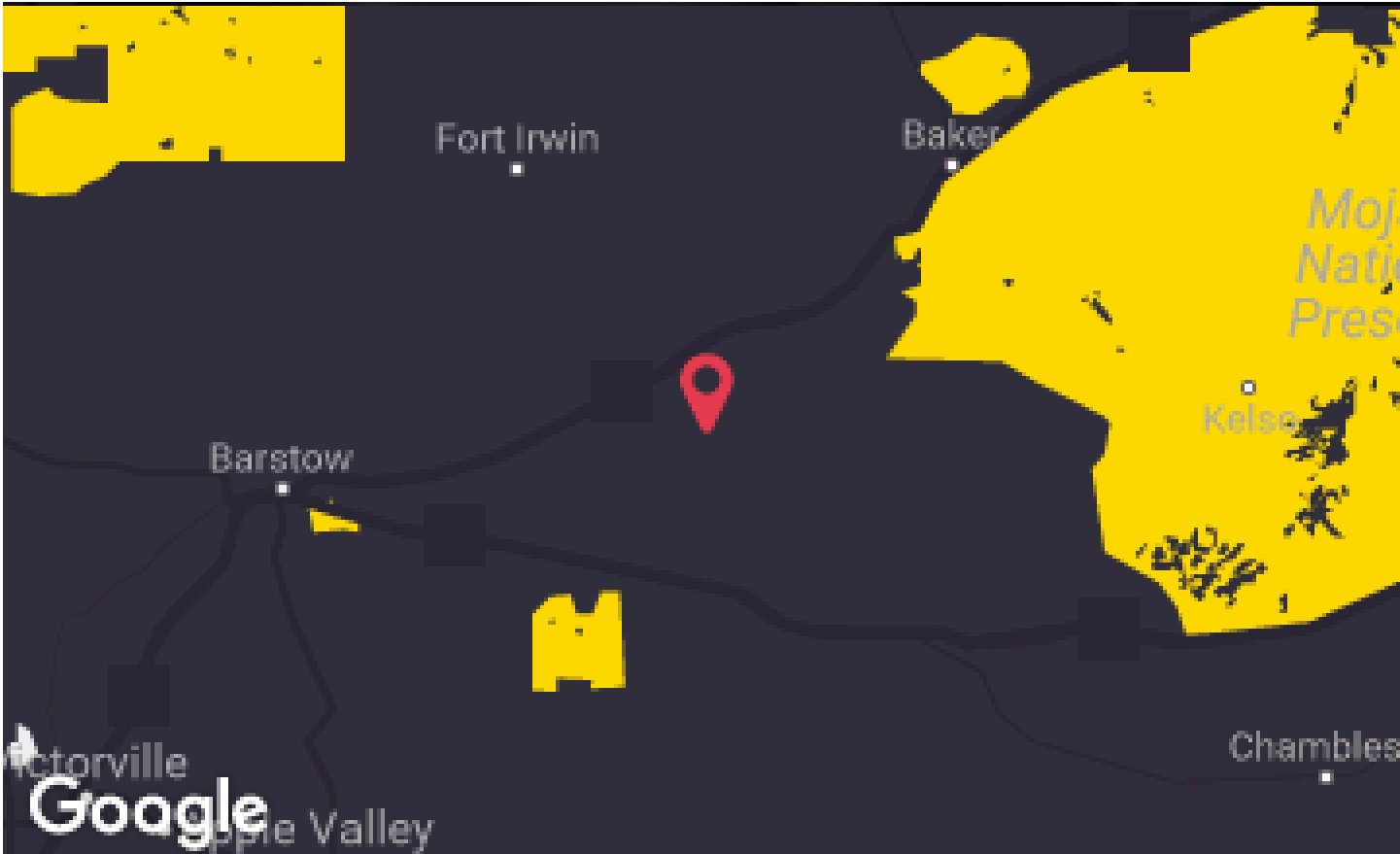
-We at R&B Tactical Tooling are the Defenders of Freedom.



**R&B TACTICAL TOOLING**

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## How To Finish a Polymer 80 Glock Frame Kit – Full Review

by THOMAS GOMEZ on JANUARY 28, 2018



Related Tags: [9mm](#), [Action Target](#), [Buzz](#), [Concealed Carry](#), [DIY](#), [EDC](#), [Feature Articles](#), [Glock](#), [Gun Review](#), [Remington Ammunition](#)

Several weeks ago I was walking around my favorite gun store, BMC Tactical in Albuquerque, New Mexico, when I saw a fancy looking Glock lower frame sitting in a plastic jig.

“What is that?” I inquired.



The clerk working the gun counter pulled the assembly out of the case and explained that it was Polymer 80's PF940C Compact frame for a compact-sized Glock pistol.

“Sold. Do you have a lower parts kit?” I asked.

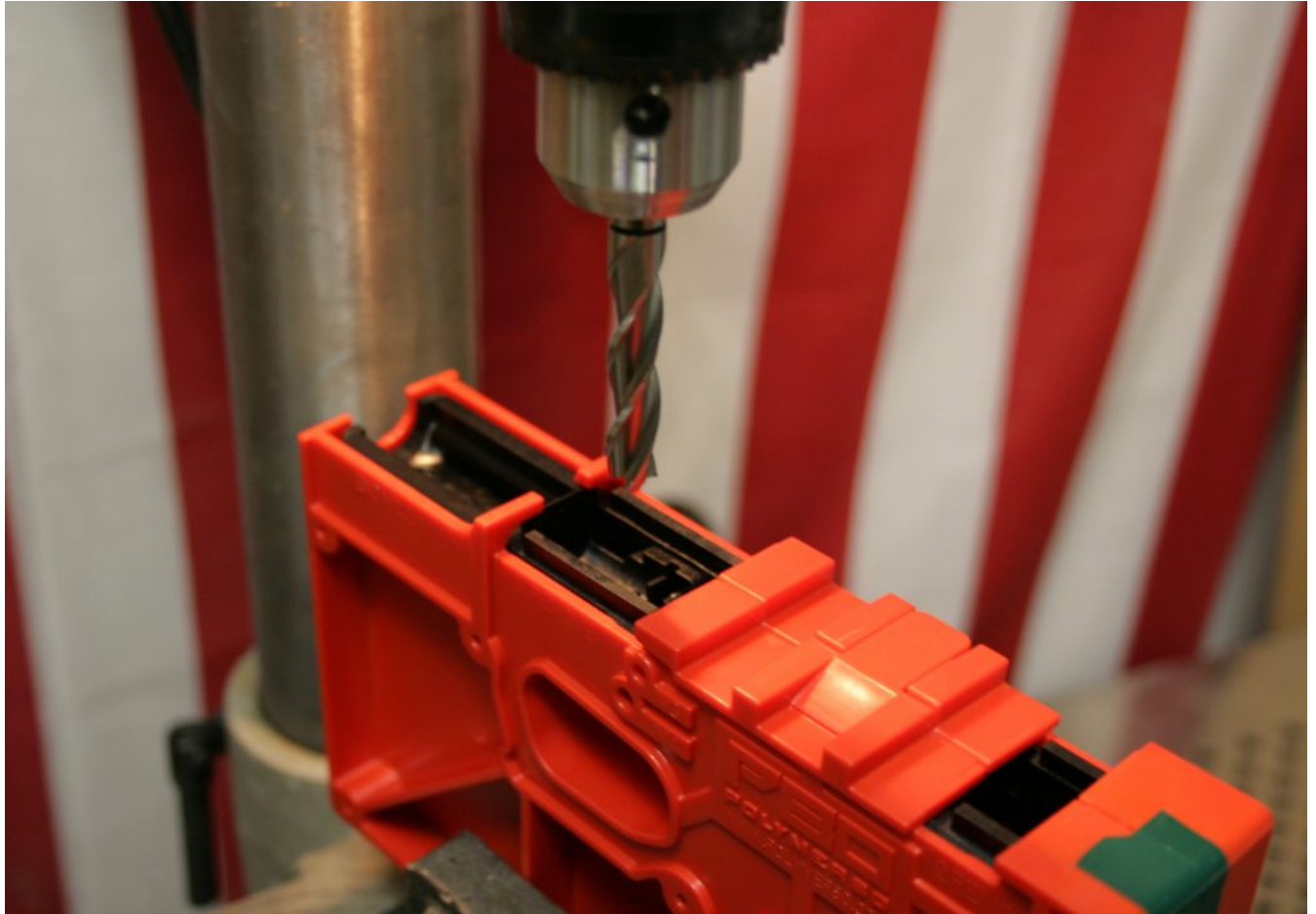




## Beginning the Build

I walked out of BMC Tactical, drove home, and went straight to my armorer bench. Placing the Polymer 80 frame in the plastic jig, I squeezed the jig assembly in a typical work vise under my vertical drill press.

After attaching the supplied end mill in my drill press chuck, I turned the drill press on and started to remove polymer. The end mill sliced through the polymer like butter. After slowly and methodically removing all necessary polymer along the top of the frame, an act which took a whopping 10 minutes, I cut the slot in the frame that interfaces with the guide rod. After milling off as much plastic as possible with the end mill, I used a standard hand drill to bore holes for the pins that hold the internal parts. Polymer 80 provides two small drill bits for these holes. Note that the manufacturer does not recommend the use of a drill press for this step.



## Assembling the Lower Parts Kit

After drilling out the holes, I used a set of Ramrodz Diamond Tipped Tweezers to smooth out the edges of the milled plastic. I assembled the lower frame kit and attached the slide assembly.

Initially, cycling the slide felt gritty. I disassembled the slide from the frame, lubed the pistol, re-assembled, and cycled it 100 times. After 100 cycles, I cleaned the pistol, relubricated it, and cycled 100 more times. I repeated this process until I had cycled the pistol a total of 500 times. After 500 cycles, the pistol felt smoother but was still difficult to rack. The slide was particularly tight when I held the trigger to the rear. I did an armorer level inspection, determined that the Glock Safe Action system would work properly, and drove out to my local range to test the

Since it was dark, I attached a [Streamlight TLR-1](#) pistol light and hung an Action Target gong at 15 yards. I fired off 100 rounds of Remington 115-grain 9mm ammunition. The pistol required an aggressive grip to function and would fail to eject if my grip was loose. Time to hand fit.

### Hand Fitting a Glock Pistol

When I held the trigger to the rear, the slide was damn near impossible to rack. This problem was the first I wanted to address through hand fitting. When a Glock trigger is in the rear position, the part of the trigger bar that interfaces with the firing pin safety is at its highest point. This position means that it makes contact with the bottom of the slide. Interestingly, the first time I attached the slide to the lower frame, the slide got stuck. The trigger bar got stuck distal to the firing pin safety. Removing the spacer sleeve and firing pin assembly allowed me to separate the slide from the lower frame. With a diamond file, I removed metal from the trigger bar until the bar and firing pin safety could interface correctly. This area was then sanded with 2000 grit sandpaper and Brasso.



From this picture, you can see where the trigger bar was getting hung up and grinding near the firing pin safety. I had to file and polish the trigger bar.

### Rear Rail Module

Another area that I wanted to improve during the hand fitting process was the Rear Rail Module, proprietary to the Polymer 80 frame. On a factory Glock pistol, this part is molded into the plastic. On a Polymer 80, it is a stand-alone piece that houses the Trigger Mechanism and is pinned in place along with the Trigger Mechanism. The rails were sharp and rough. After going over them several times with a diamond file, I sanded them with 2000 grit sandpaper, then polished them with Brasso. I also polished the Trigger bar and Connector.

The two areas that I had to file and polish were the rear slide rails and the trigger bar.

Removing a little bit of metal off the trigger bar and polishing the rails on the Rear Rail Module worked wonders! After reassembling the slide and lower frame, I cycled the pistol, and it felt like a factory Glock. I cleaned and lubricated the pistol then conducted a pencil test. I cycled the pistol, then dropped a pencil down the barrel. Pointing the gun in the air, I squeezed the trigger. I was pleased to see the pencil jump several inches. This test checks to make sure that the Glock Safe Action System is working and that the pistol will fire.

### More Range time

Heading back out to the range, I fired 100 rounds of PMC Bronze, Remington UMC, and Tula. The pistol performed flawlessly.



I personally did a little bit of stippling under the trigger guard and on the frame next to the Locking Block. The ergonomics on this pistol are fantastic.

The final round of testing took place during a pistol course taught by QPro Defense. Former Recon Marine Oscar Sanchez led the course, which was excellent: the instruction was top notch, the drills were relevant, and the coursework was current. I ran the Polymer 80 pistol for about half the course, and it performed 100%.



## Final thoughts

So why did my Polymer 80 need the fine-tuning? My best guess is that my Rear Rail Module sat a little bit higher than average. This difference caused my trigger bar to put extra tension on the bottom of the slide. I have conferred with others who have also completed the kit, none of whom experienced the problems I discussed here.

All in all, finishing the Polymer 80 Compact lower frame kit was a lot of fun, and took surprisingly little time. The Frame itself has some nice additions, such as an enlarged back strap to mitigate slide bite, and comes with beautiful stippling. The ergonomics on the frame are superb, and this pistol is a joy to shoot.

Build one! The Polymer 80 Compact kit sells for around \$150. If you have questions, feel free to comment below.



[#60020 Diamond-Grip Pivoting Pinch Files](#)

For more information about BMC Tactical, click [here](#).

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Moldyolddude

MARCH 5, 2018, 2:28 PM

I see there is a metal piece where the serial number is usually placed under the frame. Is that on all the LWD 19 frames ? If so where and how would you get a number to put in it if in the future all "Ghost" guns are made illegal ?

REPLY

LINK

ejharb

FEBRUARY 12, 2018, 9:17 AM

I kinda want to do a couple of these.

9mm and 45.probably need to do it soon.if we lose our fantastic president or we get complacent and the demoncraps get back in power and evict him ghost guns are near the top of their list.I give it under 2 years before a mass shooting is done by one as a false flag to ban them.

REPLY

LINK

Mike Leonetti

JANUARY 29, 2018, 4:11 PM

I have been looking at these for a while, but when searching for the other parts, it seems that the cost would be more than buying a brand new Glock. I would love to make one, but it doesn't make a lot of sense to me.



REPLY

LINK

**ChAsM80**

JANUARY 29, 2018, 5:36 PM

If you shop carefully you can get the price down to about the same as a new Glock, and have some good parts. So for the price of a Glock you can get a somewhat upgraded Glock.

Still only a good plan if you WANT to build one.

I've seen more companies making slides and barrels lately, maybe the price will come down. I've got one built and another on the shelf waiting for deals.

REPLY

LINK

**Donald Blaufuss**

JANUARY 29, 2018, 11:44 AM

Where did you get the slide and what did it cost?

don

REPLY

LINK

**Thomas Gomez**

JANUARY 29, 2018, 2:13 PM

It was the slide off of my Glock 19. You can buy slides from a number of places online.

REPLY

LINK

**Anthony**

JANUARY 29, 2018, 11:02 AM

By building your polymer 80 are you saving any money than buying a used gun of similar model? Just curious if this is a way to get into a cheaper gun or is it more a way to make a custom non serial number gun. If you saved money compared to used gun, on average how much did you save?

REPLY

LINK

**Gopher**

JANUARY 29, 2018, 9:53 PM





Sidenote, will become custom serial number gun for paperwork transfer.

[REPLY](#)[LINK](#)

#### Guns2317

JANUARY 29, 2018, 4:31 PM

I don't think you actually save any money by building it yourself. I did one of these as a Gen1 project shortly after they debuted. I bought an extended 9mm barrel and slide, sights, trigger assembly kit, etc since I did not have any spare Glock parts laying around. It was a fun project, learned a bit, but bottom line the final cost was just about the same for a new Glock. There is a certain satisfaction in going to the range and shooting something you built and tuned for yourself.

For roughly the same cost as the 80% kit, Lone Wolf had been selling their frames last fall complete with trigger assembly, but you do need to do the regular FFL paperwork to buy one.

Bottom line, if you are looking to build a "ghost" gun, then the 80% kits are the way to go. Otherwise, you are not really saving much money to do it yourself. When I get some more funds, I will likely buy another kit just for the enjoyment of having built it myself. Probably gonna wait for them to do the .45 frame to do so.

[REPLY](#)[LINK](#)

#### Anthony

JANUARY 30, 2018, 11:17 AM

Thanks for the info. I figured it would not save a lot of money if any at all.

[REPLY](#)[LINK](#)

#### GreenWolf70

JANUARY 29, 2018, 10:07 AM

The trigger bar tab dragging on the slide, and/or the safety disconnect button not moving smoothly in its hole are probably the most mentioned issues with the Poly80 frames. The rear rails should be flush with the rear tab on the frame. If they are setting too high remove burrs and metal at the bends that prevent the rail from fully seating. Don't redrill the hole to fit the rear rail, make it sit flush. If your rear rails are sitting too high they also cause the striker bar to sit too high on the trigger bar sear and leave a larger than Glock size gap between slide and frame.



**Thomas Gomez**

JANUARY 29, 2018, 2:14 PM

Exactly! Thank you Sir.

REPLY

LINK

**Paul O.**

JANUARY 29, 2018, 10:04 AM

Thanks for the article. I picked up a P80 kit a little while ago and am still deciding on a slide for it. Looks like paying attention to polishing every contact surface is a good idea.

REPLY

LINK

**Tom Coats**

JANUARY 29, 2018, 8:16 AM

I own several handguns, including a couple of Glocks, have been a shooter most of my life, and think I understand quite a bit of technical knowledge.

But I do not understand what you are reporting after buying the kit for refinishing the pistol?

Does the kit replace the plastic with metal parts?

Sorry for the density of my brain, but I am lost as to what exactly was accomplished?

You seem to be skilled at smithing and adjusting the Glock, but I am unsure as to what exactly you accomplished with the kit and your knowledge and skill?

Thanks,

Tom Coats

Hot Springs Village, ARK

REPLY

LINK

**Thomas Gomez**

JANUARY 31, 2018, 1:16 PM

The kit replaces the lower frame. It was a pet project and for testing I used the slide off of a stock G19. The polymer 80 may turn into a Roland Special type build.

REPLY

LINK



**NRSNick**

JANUARY 29, 2018, 7:44 AM

Built two, love them. One of the 19 ilk, one 17. The first version of the 17 was a bit tricky because it was first Gen, in which you must hone the rear rails, which are polymer also. It required some special fitting and the slide was sticking for a while, but the 19, which has the inserted metal rear rails, was a breeze. The 17 version has now been upgraded to use the same metal rails in the rear is much easier. Next is a P320 kit that has been much awaited and backorders are swelling for it's full release. Both of my pistols are accurate and have better ergos in my opinion. Best of all,...no serial numbers and legal.

REPLY

LINK

**Guns2317**

JANUARY 31, 2018, 3:34 PM

Were you able to buy the rear frame rails block and retrofit it to your Poly 80 Gen 1 kit? I would love to be able to do the same with mine, that would address what I see as a weakness in the first design.

REPLY

LINK

**NRSNick**

JANUARY 29, 2018, 7:43 AM

Built two, love them. One of the 19 ilk, one 17. The first version of the 17 was a bit tricky because it was first Gen, in which you must hone the rear rails, which are polymer also. It required some special fitting and the slide was sticking for a while, but the 19, which has the inserted metal rear rails, was a breeze. The 17 version has now been upgraded to use the same metal rails in the rear is much easier. Next is a P320 kit that has been much awaited and backorders are swelling for it's full release. Both of my pistols are accurate and have better ergos in my opinion. Best of all,...no serial numbers and legal.

REPLY

LINK

**JaegerMeister**

JANUARY 30, 2018, 2:08 PM

You say the 17 has been upgraded to the metal rear slide. Was this added to the Gen 1 version or did you purchase another Gen 2 polymer? If you upgraded the Gen 1 to the metal rear slide, where did did you purchase the metal rear slide part???



REPLY

LINK

**NRSNICK**

JANUARY 30, 2018, 7:35 PM

I didn't upgrade my Gen 1, I saw the Gen 2 afterwards. I only have the Gen 1, but I'd like to get the 2. I really don't know if you can retro-fit the Gen 1 with the metal rail piece or not, but I'm sure you can get the answer by calling them. If you can, ask if they'll sell the rail by itself to do the job. I'd love to know as well.

REPLY

LINK

**DC**

JANUARY 29, 2018, 7:18 AM

Would u feel comfortable trusting it as your ETC gun? I also noticed that there isn't as much of gap between the slide and the lower, do u think that's better than factory on that as well as overall?

REPLY

LINK

**Thomas Gomez**

JANUARY 31, 2018, 1:22 PM

Hi DC.

After all the hand finishing I have done, yes. In regard to quality I would say they are the same. I bought it because of the stippling and large beaver-tail, plus as an armorer I wanted to assess the quality and go through the build process. If you finish one, find a Glock armorer to do a quick assessment. If they okay it, and it will run 100 rounds with no issues, you are probably okay.

REPLY

LINK

**Jay**

JANUARY 29, 2018, 6:29 AM

These have been out on the market since May of 2016!. Maybe this is just a sales pitch for polymer 80!

REPLY

LINK



No problem with that. Sales pitches are all about providing information. This is the first time I've heard of it no matter when it came out so I'm grateful for this kind of article.

[REPLY](#)[LINK](#)

**Jeffrey Beam**

JANUARY 29, 2018, 8:20 AM

Sales pitches are all about providing information. Since I have never heard of this I am grateful for this article sales pitch or not.

[REPLY](#)[LINK](#)

**Thomas Gomez**

JANUARY 31, 2018, 1:25 PM

I have no vested interest in Polymer 80. I just saw one at BMC Tactical and thought it looked cool.

Cheers.

[REPLY](#)[LINK](#)

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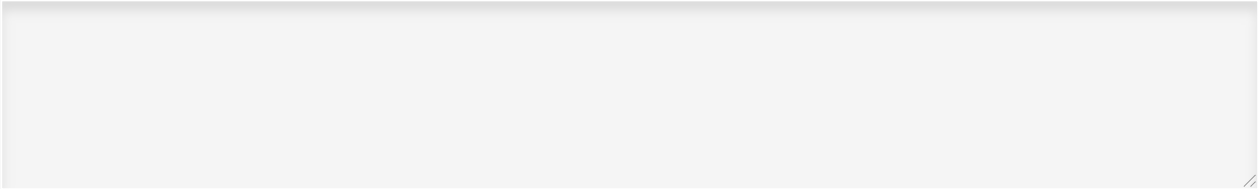
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New XDS MOD2 OSP from Springfield

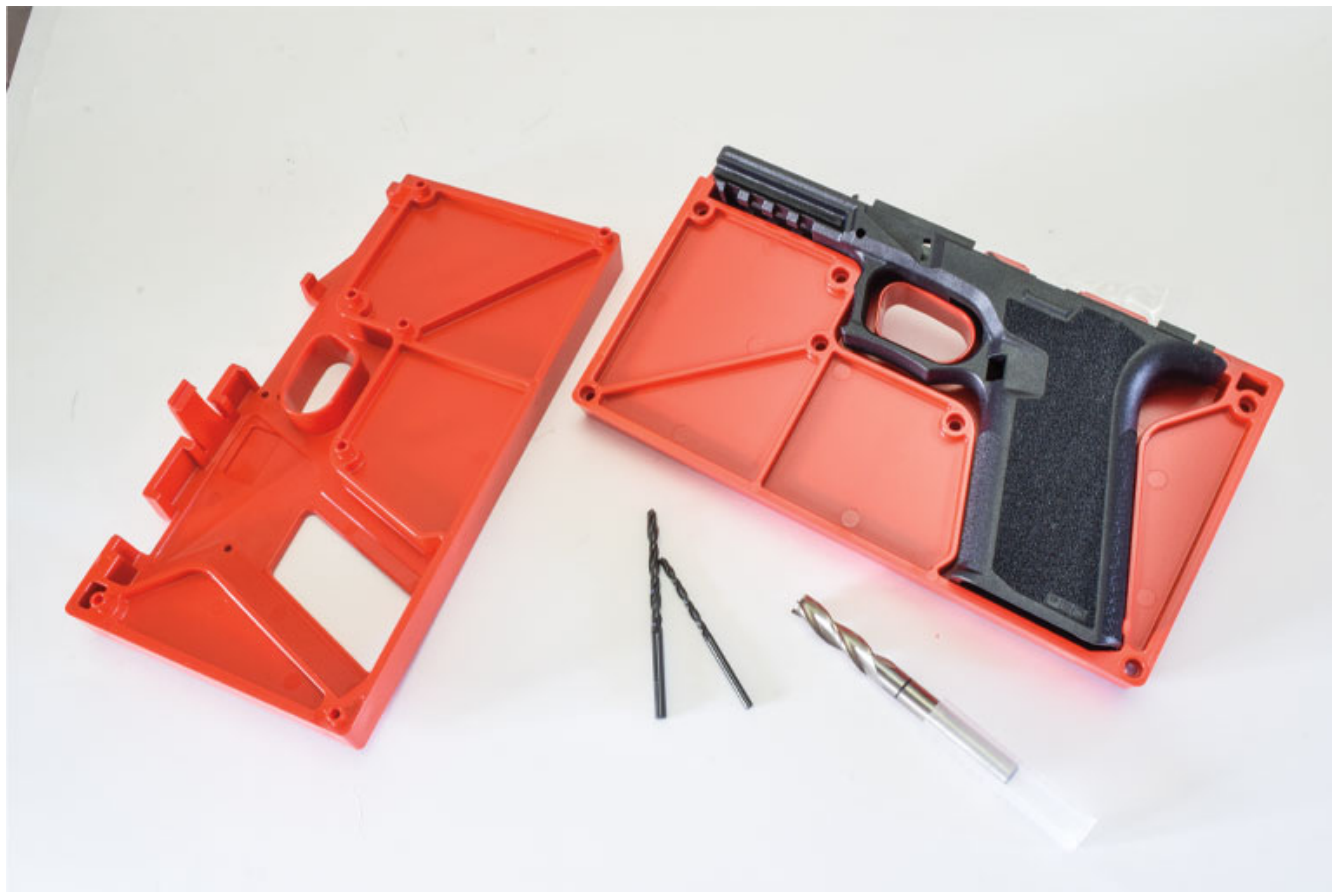






## Brownells Polymer80 Kit for Glock Pistol Builds

*Last year Brownells began offering Brownells-branded Glock-pattern slides and barrels, and currently it has two Brownells-exclusive Polymer80 frame models to complete your build.*



*The Polymer80 kit from Brownells comes with an unfinished frame, drilling fixture, drill bits, and all the P80-specific parts you'll need to get your frame ready for a lower parts kit.*

June 18, 2020

**By James Tarr**

Brownells is the the largest retailer of firearms accessories in this country. In recent years it has also started selling complete firearms, but where it has always excelled is in offering gun parts. In the past few years the company has begun selling “Brownells”-branded parts and accessories, made in-house.

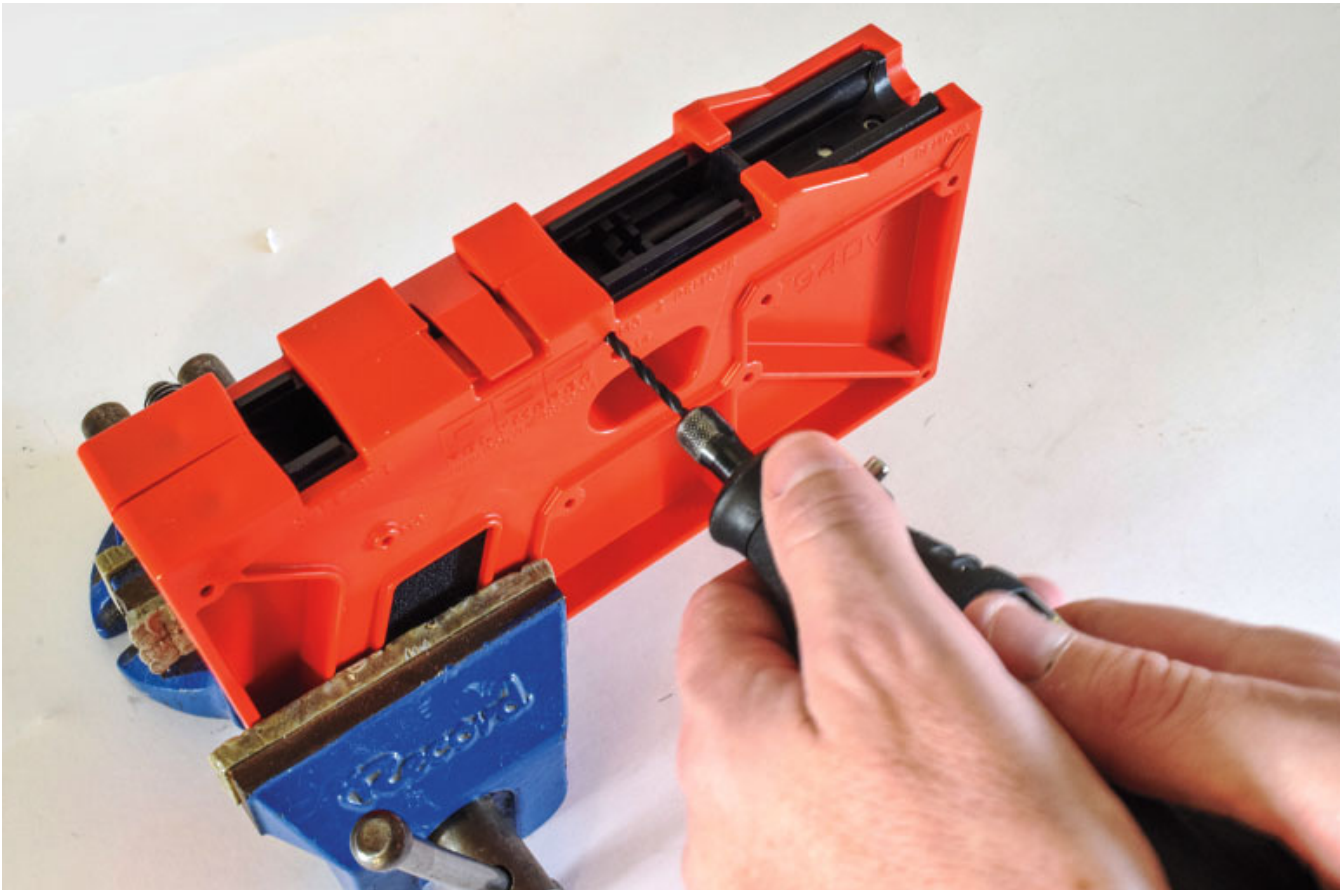
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Last year it began offering Brownells-branded Glock-pattern slides and barrels, and currently it has two Brownells-exclusive Polymer80 frame models to complete your build.

It seemed to me like it was time to build my own gun as I'd never done it before. I obtained a full-size Polymer80 frame from Brownells, as well as just about every other part I'd need to build my own Glock 17-size pistol—all without requiring the services of an FFL.

If you're a bit behind the curve when it comes to 80-percent lower receivers, here's the short version. Per the Gun Control Act of 1968, it is perfectly legal for an otherwise unlicensed private citizen to manufacture a firearm for themselves, provided it is for their personal use and not for resale. Such firearms do not even need to have serial numbers.



*While it's recommended to use a drill press, Tarr was able to drill the pin holes in the P80 frame by hand with a Dremel tool.*

However, most people do not have the tools or the skill to manufacture their own guns, which has always been the limiting factor. Enter the "80-percent" companies, of which Polymer80 is the largest.

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As long as the frame of a firearm is no more than 80 percent complete when you purchase it, it is still not a firearm. Once it is fully machined, as long as you don't give or sell this completed frame/firearm to another person, it is not legally required to have a serial number.

Brownells sells several exclusive versions of the compact and full-size Polymer80 frames with the new aggressive texture in black, gray, coyote, flat dark earth and OD green. I secured a black full-size frame, technically the PF940v2. This has an aggressive texture and works only with Glock Gen 3 parts. It sports a flat backstrap and a grip angle closer to that of a 1911.

## Photo Gallery

[➤ See all Photos](#)



The complete kit comes with a frame, finishing jig, drill bits and all the P80-specific parts you'll need for the build. You will still need a lower parts kit—trigger unit, slide stop, magazine release, etc.—to complete the build, as well as a top end. These frame kits normally retail for \$150 but seem to go on sale frequently. There is a metal plate in the frame if, at some point, you want or need to add a serial number.

After having gone through the process, I would recommend that unless you're intimately familiar with the Glock design and can strip a pistol down to the smallest part, you should educate yourself before attempting this build, as even Polymer80s detailed instructions have a few gaps.

Installing the parts in the frame took me more time than machining it. When in doubt, perhaps track down some Glock disassembly/assembly videos online before diving in.

To get this 80-percent frame to 100 percent, you will have to drill three pin holes in the sides of the receiver, mill off excess material from the top of the frame and mill out the barrel block where the recoil spring guide sits. Polymer80 provides three drill bits and a drilling jig, and it recommends the use of both a hand drill and a drill press. You'll also need a vise to hold the drilling jig.

Most people do not have access to a drill press, and I know people have machined P80 frames successfully just using hand tools, so I decided to do everything using just a Dremel tool and a hand drill.



*Brownells sells its own billet-machined stainless steel slides and match-grade Glock-pattern barrels to finish off your frame.*

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When drilling out the pin holes, do not go all the way through both sides of the frame. Do one side, then the other. As these pins don't just go through your fresh pin holes but through steel parts, slight angling errors on your part usually don't cause problems.

The excess material on the top of the frame is easy to remove. It sticks out above the drilling jig framework and prevents a slide from mating with the frame. You could use a knife or a Dremel with a grinding wheel to remove the excess. Any imperfections will be hidden once the slide is installed.

As for the channel for the recoil spring and its guide rod, you have to remove a circular area, going in from the front of the frame/jig. The material to be removed is clearly marked. The 9mm drill bit Polymer80 provides is exactly the right size, and if you're using a drill press that's the way to go.

With a hand drill, however, because that fat drill bit doesn't have a pointed but rather flat tip, it wants to skip around. So I improvised. I used one of my own drill bits with a pointed tip and a narrower diameter to drill the initial hole, then expanded it to the proper size, using the side of a narrow drill bit as a crude grinding wheel.

Factory Glock frames have the steel slide rails embedded in the frame. That's not an option with the Polymer80 frame, so it has developed workarounds. The locking block on the P80 frame also incorporates the forward frame rails. There is a drop-in stainless steel rear rail module (RMR) that cradles the trigger housing at the rear of the frame.

Drilling and machining the frame took me 10 minutes, tops, and was shockingly simple. You'll spend far more time installing the parts into your frame and slide than you will drilling and grinding on the frame.

As for slides and frames, Brownells has something for everyone. Its slides are machined from billet 17-4 stainless steel and given a nitride finish. It has wraparound serrations and is machined internally to factory dimensions. You have your choice of standard or RMR-cut slides. My full-length slide was made for standard iron sights, but with a window machined into the top (\$214).

You'll need a slide completion kit. There are a number of different options available, I bought one from Glock (\$90). Every piece and part on a Glock can be installed and removed with a simple punch, and the same is true of the striker channel liner in the slide, but I recommend a channel liner installation tool. You can find them for under \$10.

Brownells makes match-grade drop-in barrels of 416R stainless steel for Glocks. These have a nitride finish and are button-rifled so you can use lead bullets safely. They're offered for G17 and G19—generations one through four—standard length or extended threaded (1/2x28) versions. My standard-length G17 barrel has a suggested retail price of \$155.

To finish the frame I had a frame completion parts kit on hand, but if you wanted to buy one, they start at \$50 and go up from there. I installed a set of RAM night sights from XS Sights (\$140).

Once finished and assembled, I found the slide/barrel fit was really tight. Lubing it generously and cycling the slide by hand 50 or so times before I headed to the range smoothed it out considerably, and live-fire smoothed it out even more. So far, I've got 200 rounds through the pistol without a malfunction. It is still tight, which I like, and at least as accurate as any factory-built Glock I've tested.

Is building your own cheaper than buying a factory gun? Actually, no, but you get to build the exact gun you want from the ground up, and this is your gun, built by you, nobody else.

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/ Gun Review: Building, shooting the Polymer 80 (VIDEO)

## GUN REVIEW: BUILDING, SHOOTING THE POLYMER 80 [VIDEO]

07/18/2018 10:00 AM | by Ben Brown (/news/author/benbrown)

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### Gun Review: The Polymer 80



Over the last year I've had the opportunity to build and shoot a couple of Polymer 80 handgun frames. I started with the PF940C Compact (<https://www.polymer80.com/pistol-frames/pf940c-80-compact-pistol-frame-kit>) (Glock 19 size) which now has over 6,000 rounds through it without an issue. I'll admit I was at first surprised by that. It seems to me that whenever you deviate from the proven recipe of a firearm that it never works as advertised. So it would be safe to say that I was very skeptical when I first laid my hands on one.

Polymer 80's are "80 percent lowers," hence the name. This is an arbitrary term that refers to a firearm which is in a stage that is not yet considered complete. These lowers are not serialized and do not require a background check. They ship right to your door and after completion you are considered the manufacturer. Please do check your local and state laws before ordering and building a Polymer 80.

### WHAT DOES IT TAKE TO COMPLETE A FRAME?

When you receive your Polymer 80 it will arrive in a neat little black box. Inside the box ([https://www.polymer80.com/media/wysiwyg/porto/instructions/Polymer80-PF940\\_Series\\_Pistol\\_Kit-Instructions.pdf](https://www.polymer80.com/media/wysiwyg/porto/instructions/Polymer80-PF940_Series_Pistol_Kit-Instructions.pdf)) will be your un-finished frame with the jig to guide you on your quest towards a completed frame. All the bits to remove material and drill your pin holes will be provided as well. Side note: You can use a Dremel tool to remove the necessary material as well. The only lower parts provided are the rails and locking block.

When you are ready cut and drill make sure you take your time! Polymer 80 makes this a very easy straight forward process but once material is removed it can't be put back. I'm by no means a "handy" or "crafty" individual but I was able to successfully complete a P80 frame in under 30 minutes.



The kit comes with the tooling required to finish the frame. Only a LPK is needed. *(Photo: Ben Brown/Guns.com)*

The included jig makes finishing the Polymer80 slide simple. *(Photo: Ben Brown/Guns.com)*

The tools required may vary depending on what you are most comfortable with. It's recommended that you use a drill press with the provided large end mill bit to remove material. I have seen this done with a Dremel but it is not recommended by P80. To make your pin holes you will need a hand drill and the provided drill bits. DO NOT use the drill press to drill your pin holes. A good vice is going to be a key component when working on your frame. If you have the ability to move and pivot your vice it will be a huge advantage as well. Finally, I like to finish off everything with some 220 grit sandpaper. This lets me smooth out any rough edges and clean up any pesky nylon blended polymer burs.

## **PURCHASE OF ADDITIONAL PARTS**

What do I need to purchase in addition to my P80 kit? Glad you asked because that's an important question. The Polymer 80 frames are based off the 3rd generation of Glock. This means you need to use all Gen 3 compatible parts for your lower and upper.

In my experience your standard factory Glock lower parts kits work great in the Polymer 80 frames. All lower parts drop right in without having to fit anything. Lower parts kits are sold all over the internet and typically cost around \$50 for a complete kit. You can also source kits that do not have a trigger included, in case you wanted to drop in a high-speed trigger of your choosing.

A hand drill is actually preferred over a drill press for completing a P80 frame. (Photo: Ben Brown/Guns.com)

The upper slide assembly will of course need to be a Gen 3 as well. For the slide and barrel you can go the factory route or with a name brand of your choosing, again as long as it has Gen 3 specs. Polymer 80 does make their own slides if you want to source it from them. Factory slide internals can be found readily available for around \$50.

We all know that there are more aftermarket accessories for Glock than most firearms available today. Does this mean they will work with P80 frames? For the most part the answer is yes. All your magazines, lights, & sights will work. Holsters seem to be the big exception with that “yes” though. You’ll most likely need to find a specific P80 holster for your build as Glock holsters typically won’t work because the P80 trigger guard has different dimensions. This makes holstering your P80 into a standard Glock holster a problem. Holsters are not something that you want just an “ok” fit for. I have been using a Squared Away Customs holster (<https://www.squaredawaycustoms.com/holster/>) for a while now and it has been great! There aren’t a ton of options for P80’s yet but as they become more popular the market will follow.

## WHAT ARE SOME KEY EXTERNAL FEATURES OF THE P80 FRAME?

What sets these frames apart from your factory Glock frames? First and foremost, the ergonomics are greatly improved in my opinion. Features like the undercut trigger guard, thumb ledges, mag release relief cut, and extended beaver tail make this gun an absolute pleasure to shoot. These out of the box ergonomic features have been desired by Glock owners for a long time. The finger grooves have been removed and because of this I believe these P80 frames are going to fit a wider variety of hand sizes. My hands didn’t always quite line up with the factory finger grooves and I ended up removing them anyways.

Polymer80 Frames use Gen3 Glock slides, and are available in Full size, compact and subcompact sizes. *(Photo: Ben Brown/Guns.com)*

All the popular double stack Glock 9/40 frame sizes are now available from Polymer 80. Released out at 2018 SHOT Show was there newest model, which is the 19L. This model will have the frame size of a Glock 19 but will be able to accept a Glock 17 slide. I am really looking forward to this model. I've been a huge fan of the Glock 19L size for a long time.

These P80's are loaded with value. All the models are priced the same with an MSRP of \$160 for your kit. Depending on where you shop and the sale running at the time you can buy a P80 kit between \$120-\$150.

## FINAL THOUGHTS

Front: P80 PF940C Compact frame with P80 magwell installed and Gen3 Glock Slide. Rear: P80 PF940V2 Full size frame in OD with a ZEV DSG G34 Slide. (Photo: Ben Brown/Guns.com)

Polymer 80 isn't the first to be creating blank canvas "Glock type frames" but I really think they are the best option available. My frames have run just as good as my factory Glock frames and when I had any questions about P80's it was met with friendly customer support when I contacted them.

The simplicity and functionality of building a P80 exactly to the specifications of your needs just makes sense to me. If you already have some experience with Glock I would highly recommend looking into a P80 frame. If you do take my advice and buy a P80, take your time and have fun!

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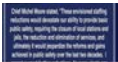
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I recently had the good fortune to receive a new ammunition line from CCI called Clean-22. The offering is another quality product from CCI, who already create some of the best .22 LR ammo around.

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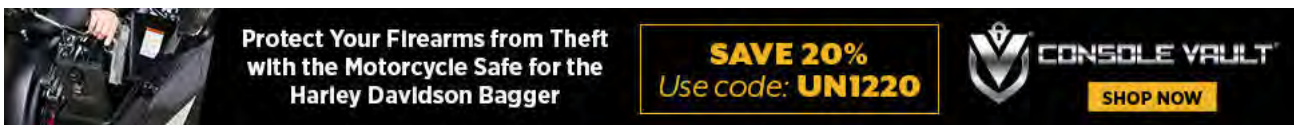
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## COMPLETING A POLYMER80 PISTOL FRAME

64890

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**Disclaimer: Always take safety precautions when working with tools or other dangerous goods. This DIY should be done at your own risk. Verify your results with a certified gunsmith prior to using the final product.**

Perhaps the ultimate project for someone who loves to work on guns is to create one with his or her own hands. With more 80% receiver options on the market today than there probably ever has been in the past, firearms enthusiasts have the choice of creating any number of different types, from AR-15s to 1911s and even MP5 clones.

One of those most popular pistol platforms over the past few decades is Glock. For any number of reasons including performance, reliability and aftermarket parts availability, Glock pistols have reigned supreme in the polymer-frame pistol realm. For those who want to build their own custom handgun from a Glock-compatible frame, all they need to do is to start with a kit from Polymer 80.



Polymer 80 offers a selection of 80% receivers that include AR-15 and .308 ARs, as well as Glock-compatible pistol frames. The two newest versions of their unfinished frames are the PF940C Compact and PF940V2 Standard. Think of the PF940C, which is a compact-sized frame, as being equivalent to a Gen 3 Glock 19 or 23, while the full-size PF940V2 is their version of a Gen 3 G17 or G22. Both frames feature what many shooters would call improvements over the originals, including a slightly more aggressive grip texture as well as deleted finger grooves and grip hump and a high trigger guard undercut.

Polymer 80's PF940 series of pistol frames have been out for a few years now, but it's their newest generation that we are most excited about. From what we've seen, previous versions of their frames had their hiccups, but the latest models are said to have these issues ironed out.

A promotional banner for Crucial Concealment. On the left is the company logo, which consists of a stylized red and black 'C' followed by the text 'CRUCIAL CONCEALMENT'. Below the logo is a red rectangular button with the white text 'BUY NOW'. To the right of the logo, the text 'UPGRADE YOUR CARRY' is in red, followed by '10% OFF' in large white letters, and '+ FREE SHIPPING' in smaller white letters. Below that, 'USE CODE: UN12' is in red. On the right side of the banner is a high-quality photograph of a black handgun, a magazine, and a folding knife arranged on a dark surface.

([https://crucialconcealment.com/#a\\_aid=UN12&a\\_cid=30584a63](https://crucialconcealment.com/#a_aid=UN12&a_cid=30584a63)).

Never having worked on a Polymer 80 frame before, we thought it would be a good test to see just how "DIY" it is. Would we run into any problems with building a pistol from their V2 frame? We decided to tackle the project and find out. We imagine like most readers of UN12 we are proficient with our hands and love to work on guns. However, we are not professionals and are not trained in gunsmithing. If anything, we're good at problem solving and looking up how-to videos up on YouTube if we get stumped. Follow along and see how our Polymer 80 PF940V2 Standard frame turned out.



<https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-16.jpg>

## What We Used

- Polymer 80 PF940v2 80% Standard Pistol Frame Kit
- Drill Press
- Cross Vise
- Power Drill
- Bar Clamp (Quick Grip)
- File
- Torpedo Level
- Nylon Mallet
- Pin Punches
- Glock compatible frame parts kit

## Preparation

step 1

<https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-02-scaled.jpg>

After reading the kit's instructions and preparing the work surface, we installed a cross vise to the drill press as recommended by Polymer 80. The kit came with a 9mm end mill, which we also attached to the drill. From what we observed, there are many ways one can complete this job with many different tools. We downloaded Polymer 80's instructions and watched their instructional video.

## Jig Placement

step 2

[.https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-03-scaled.jpg](https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-03-scaled.jpg)

We placed the jig containing the pistol frame in the cross vise, making sure that it sat level and squared up. The jig holds the frame securely and comes with handy guides molded into it. Marked in raised lettering, the jig's guides give you numbered steps on which areas to mill out and which holes to drill. Of course, these are just guides and reading the instruction manual is still required.

## Milling the Rails

step 3

[.https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-04-scaled.jpg](https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-04-scaled.jpg)

The first thing we needed to do was mill out the frame's top rails. This was a fairly easy task. Polymer 80 points out that if you've milled anything red, you're doing it wrong. To play it safe so that we didn't take off too much material, we stopped the end mill at about 1/16 of an inch from the surface of the jig. Our intention was to file it down by hand instead of taking the chance of removing too much with the end mill.

## Reorient the Jig

step 4

[.https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-05-scaled.jpg](https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-05-scaled.jpg)

Next to mill out of the frame is a chunk of plastic that's molded where the barrel sits in the frame. Called the barrel block, this obstruction needed to be removed. To do so, the jig needed to be orientated vertically. When we did this, we noticed that a seam in the front of the jig widened. We weren't sure if it mattered or not, but to play it safe we used a bar clamp to help pinch it closed.

## The Barrel Block

step 5

[.https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-06-scaled.jpg](https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-06-scaled.jpg)

Polymer 80 is good about showing you what and what not to mill. If you look carefully, you'll see a U-shaped line on the barrel block delineating the area that needs to be milled. The surrounding area is to remain untouched. They also give good advice by telling you to "slow down and work precisely and methodically, measuring twice and cutting once." You can't put material back after you've taken it out, so we move forward slowly but deliberately.

## Milling the Block

step 6

[.https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-07-scaled.jpg](https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-07-scaled.jpg)

After working the cross vise slowly, one-tenth of an inch at a time, we got the barrel block milled out to our satisfaction. If you don't use a cross mill often, we highly recommend memorizing which direction turning the knobs will make the jig go. The last thing you want in such a precise space is to turn it the wrong way and mill out an area you're not supposed to.

## Filing the Frame

step 7

After the front and rear frame rails and barrel block have been milled, we went about filing the remaining frame rail surfaces down by hand. As you'll recall from Step 3, we left about 1/16-inch worth of material so as to not take out too much at once. A good file or even sandpaper can help take the rail down so that it is perfectly flush with the rest of the frame.

## Milling Results

step 8

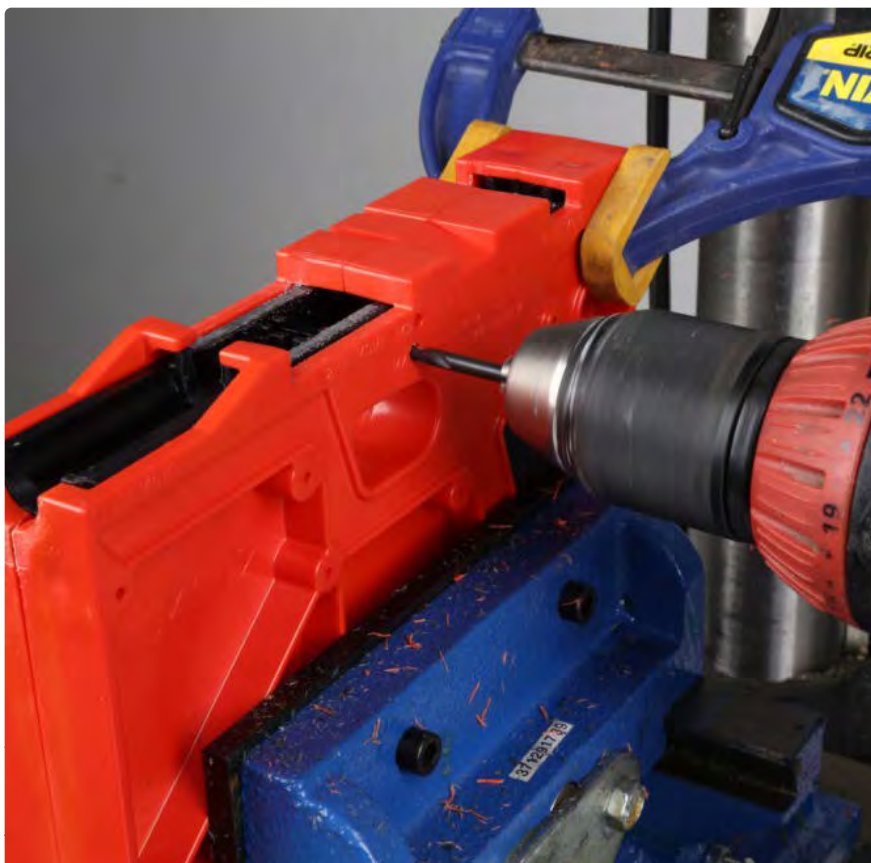


(<https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-09-scaled.jpg>).

Here's the frame after it has been milled and filed. You can see the milled rails on both sides of the front and rear of the frame as well as the U-shaped cut in the barrel block in the middle part of the frame's front end. Everything looks clean and relatively smooth, so we'll move on to drilling.

## Drilling

step 9



on the jig. Polymer 80 points out not to drill the holes in one vertical each side. In other words, don't just power through from one side to the other side.

step 10



(<https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-11-scaled.jpg>).

If you read the instructions and watch Polymer 80's installation YouTube video, you'll notice that they each tell you to install the included Rear Rail Module (RRM) and Locking Block Rail System (LBRS) parts in different orders. We followed the video version and installed the RRM first along with our trigger assembly only to find that the LBRS was too wide to fit in the frame. Lucky for us, Polymer 80 anticipated this and included a tip in the written instructions on how to fix this issue.

## Fitting the LBRS

step 11



such as a screwdriver shaft or dowel so the LBRS can slide in. (random, we know) that worked for us. It was wide enough to

step 12



(<https://un12magazine.com/wp-content/uploads/2020/03/UN12-002-DIY-POLYMER80-13-scaled.jpg>).

Polymer 80 recommends only getting the LBRS in partially, which allows room for easy trigger assembly and RRM installation. We did just that and everything fit perfectly. The trigger assembly and RRM slid in with just a gentle push. After those parts were situated, we carefully used a nylon mallet to hammer the LBRS into place.

## Pins and Frame Parts Kit Install

step 13





; came with a separate frame parts kit and trigger kit that we used

and deeply recessed trigger guard undercuts that allow the pistol to sit in your hand. There's no hump in the grip and it has a scalloped magazine release as well as forward thumb placement shelves. It even has a slightly flared magwell.

## Bottom Line



<https://un12magazine.com/wp-content/uploads/2020/03/002-DIY-POLYMER80-FRAME-COMPLETE-17-scaled.jpeg>

All in all, we'd say that the frame didn't present much difficulty to mill and assemble. We were able to complete the milling and build in about an hour and a half, including triple checking our work as we went along. If we didn't already have a drill press and cross vise, we might even say that you can do this project with a Dremel. Polymer 80 probably doesn't recommend going that route, but we think it is possible if you're skilled with the rotary tool.



The frame is far nicer than we expected and its polymer feels great in the hand. We feel that they knocked it out for the park in terms of the frame's contours and features. For those who wish to take their custom build up another notch, Polymer 80 offers another model of the frame kit called the ReadyMod that is completely un-textured, allowing you a completely blank canvas for you to go gonzo with your stippling and grip customization.

Polymer 80

PF940v2 80% Standard Pistol Frame Kit

MSRP: \$160

url: [polymer80.com](http://polymer80.com) (<http://polymer80.com>).

Text by Michael Grey / Images by Jeff Chen



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